

Appl. No. 10/597,514
Amdt. Dated March 30, 2011
Reply to Final Office Action of January 6, 2011

Attorney Docket No. 374611-000138
Customer No.: 73230

REMARKS/ARGUMENTS:

Claim 18 is amended. Claims 18, 20, 21, 23, 26-34, and 36-38 are pending in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

INTERVIEW SUMMARY:

On March 8, 2011, Patent Agent Barry Shuman conducted a telephone interview with Examiner Seyed Masoud Malekzadeh. During the interview the parties discussed the Final Office Action dated January 6, 2011. A proposed amendment to claim 18 and the reference Bate (U.S. Patent No. 3,165,798) were discussed. The Examiner agreed that the proposed amendment to claim 18 would overcome Bate.

Applicant would like to thank Examiner Seyed Masoud Malekzadeh for the courtesy of granting a telephone interview with Patent Agent Barry Shuman.

CLAIM REJECTIONS UNDER 35 U.S.C. §102:

Claims 18, 20, 23, 28-34, and 36-38 stand rejected under 35 U.S.C. §102(b) as being anticipated by Bate (U.S. Patent No. 3,165,798). Applicant respectfully traverses this rejection.

Claim 18, as amended, is as follows:

A mold for producing a silicon ingot, comprising:
a bottom surface member; and
a plurality of lateral surface members combining with the bottom surface member,
and each lateral surface member comprising a first engaging structure on a first lateral end thereof and a second engaging structure on a second lateral end thereof, one of the first and second engaging structures of one of the plurality of lateral surface members engages

with one of the first and second engaging structures of another one of the plurality of lateral surface members,

wherein the first and second engaging structures each comprises a projection and a recess, and

wherein the plurality of lateral surface members are combined with a side surface of the bottom surface member and are upright so as to surround the bottom surface member, and

the mold for producing a silicon ingot further comprising:

a mold holder configured for placing the bottom surface member and the plurality of lateral surface members that are combined, the mold holder being provided independently from the bottom surface member;

a wedge receiver on an upper surface of the mold holder; and

a plurality of wedge members respectively positioned in clearances between the wedged receiver and outer peripheral surfaces of the plurality of lateral surface members.

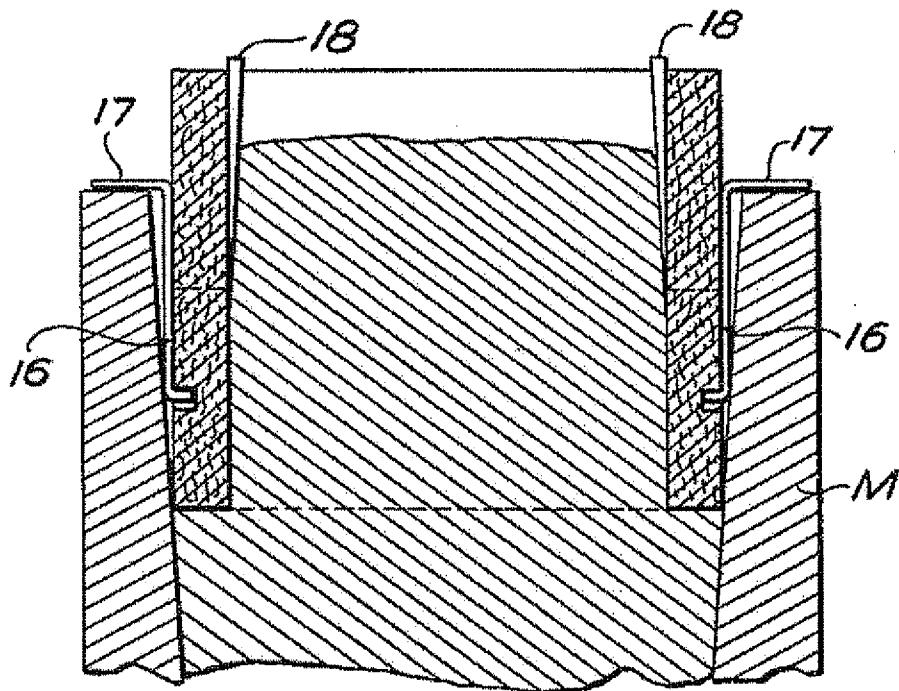
Applicant respectfully submits that Bate cannot anticipate or render claim 18 obvious, because Bate fails to teach or suggest a "mold for producing a silicon ingot" comprising both "a bottom surface member" and "a mold holder configured for placing the bottom surface member and the plurality of lateral surface members that are combined, the mold holder being provided independently from the bottom surface member."

It is an aspect of the present invention that the mold 1 is assembled by placing the bottom surface member 2 on the mold holder 9 provided with the wedge receivers 10, arranging the four lateral surface members 3 so as to surround the outer periphery of the bottom surface member 2, and respectively driving the wedges 8 between the outer surfaces of the lateral surface members 3 and the wedge receivers 10. The wedge receiver 10 and each of the lateral surface members 3 can be firmly fixed to each other without loosening a joining portion between the bottom surface member 2 and the lateral surface member 3 by driving the wedge 8 between the wedge receiver 10 and the lateral surface member 3. Therefore, the

leakage of a silicon melt is restrained, so that the size of the mold 1 can be increased. The necessity of subjecting the bottom surface member 2 composed of a high-cost graphite mold member to special processing for preventing the leakage of the silicon melt is eliminated, so that the rise in the cost of the mold can be restrained. (Applicant's specification, at p. 33, line 16-p. 34, line 12).

Bate is generally directed to a hot top used in conjunction with ingot molds. (Bate, column 1, lines 7-11). Bate teaches that the hot top has a pair of side portions 12, 13 and a pair of end portions 10, 11. (Bate, column 2, lines 44-49; Figure 1). The bottom of Bate's hot top lacks a surface. (Bates, Figures 1 and 5). However, should the Office consider the ingot mold (M) to be "a bottom surface member," then Bates would lack "a mold holder." And if the Office considers the ingot mold (M) to be "a mold holder," then Bates would lack "a bottom surface member." In either case, Bates fails to teach or suggest having both a "bottom surface member" and "a mold holder."

Figure 5 of Bate is as follows:



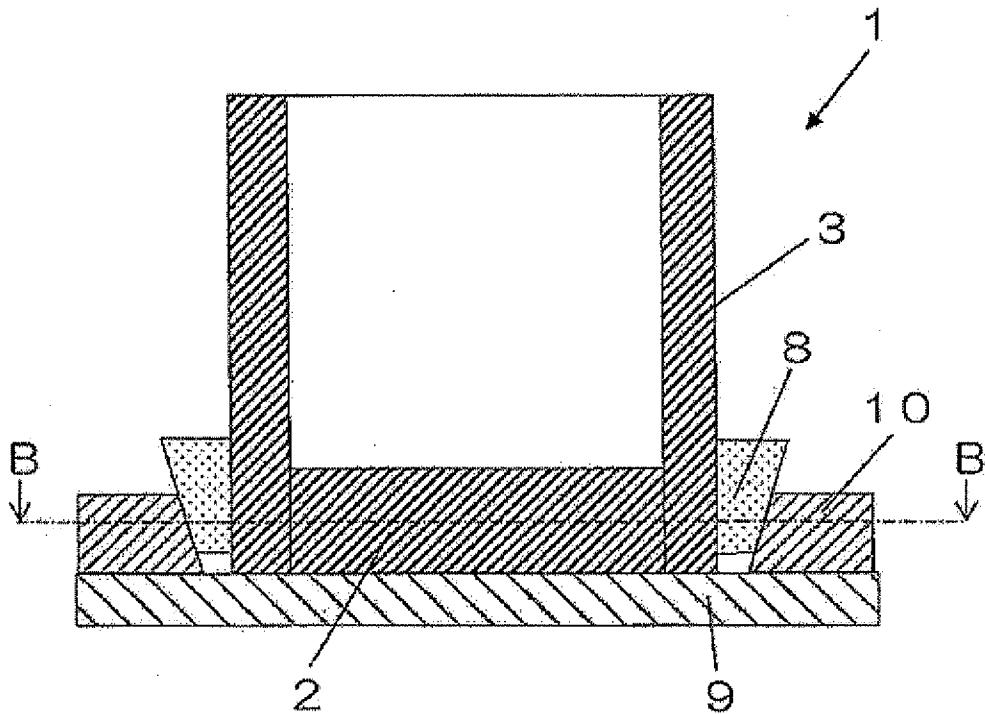
The upper ends of the hanger cranks 16 are outturned as at 17 and adapted to overlie the uppermost surface of an ingot mold M. Reference numeral 18 is a wedge member. (Bate, column 2, lines 54-72).

In contrast, as shown in Figure 5a of the present invention, the mold holder 9 and bottom surface member 2 are independent members.

Figure 5(a) is as follows:

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In light of the foregoing, Applicant respectfully submits that Bate cannot anticipate or render claim 18 obvious, because Bate fails to teach or suggest each and every claim limitation. Claims 20, 23, 28-34, and 36-38 depend from claim 18 and therefore, cannot be anticipated or rendered obvious for at least the same reasons as claim 18. Withdrawal of this rejection is thus respectfully requested.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103:

Claim 21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Bate. Applicant respectfully traverses this rejection.

Claim 21 depends from claim 18 and is therefore, patentable over Bate for at least the same reasons discussed above. Withdrawal of this rejection is thus respectfully requested.

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Claims 26 and 27 rejected under 35 U.S.C. § 103(a) as being unpatentable over Bate in view of Chapin (U.S. Patent No. 1,572,707). Applicant believes "1,572,707" is a typographical error and the Office intended to cite U.S. Patent No. 1,572,705. Applicant respectfully traverses this rejection.

Claims 26 and 27 depend from claim 18 and are therefore, patentable over Bate for at least the same reasons discussed above. Chapin cannot remedy the defect of Bate and is not relied upon by the Office for such. Instead, the Office cites Chapin for teaching that wedge receivers (D) are removable from the upper surface of the mold holder and, a plurality of wedge receivers (D) exists and a space between one of the plurality of wedge receivers (D) and another one wedge receiver is arranged at a position opposed to the one of the wedge receivers with the bottom surface member and the plurality of lateral surface members that are combined there-between.

In light of the foregoing, Applicant respectfully submits that the cited references cannot render claims 26 and 27 obvious, because the cited references fail to teach or suggest each and every claim limitation. Withdrawal of this rejection is thus respectfully requested.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (310) 595-3107 to discuss the steps necessary for placing the application in condition for allowance.

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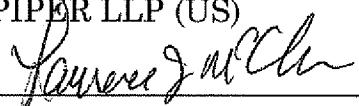
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If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 07-1896.

Respectfully submitted,

DLA PIPER LLP (US)

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